

IN THE CLAIMS

Please make the following amendments to the claims:

1. (Currently Amended) A method comprising:
generating an offset map to indicate ~~the~~an exact location of each file in a backup image, before any file data has been written to the backup image; and
~~writing~~storing the offset map to the backup image on a storage device before
~~writing~~storing the file data to the backup image.
2. (Original) A method as recited in claim 1, further comprising:
subsequent to writing the offset map to the backup image, writing the files to the backup image.
3. (Original) A method as recited in claim 2, further comprising:
prior to generating the offset map, receiving a request to generate the backup image, the request indicating a backup path to be included in the backup image;
generating a list of files to be included in the backup image based on the backup path indicated in the request; and
writing the list of files to be included in the backup image to the backup image.
4. (Original) A method as recited in claim 3, wherein said generating an offset map to indicate the exact location of each file in a backup image includes calculating the space required in the backup image for each file included in the list of files to be included in the backup image.
5. (Original) A method as recited in claim 4, wherein said calculating the space required in the backup image for each file included in the list of files to be included in the backup image includes compensating for any holes that may exist in the file, as the file is stored on a file system.

6. (Original) A method as recited in claim 4, wherein said calculating the space required in the backup image for each file included in the list of files to be included in the backup image includes compensating for any headers to be written as part of the backup image for the file.
7. (Original) A method as recited in claim 3, further comprising:
for each file in the list of files to be included in the backup image, determining whether the file has any associated streams and, if so, adding the associated streams to the list of files to be included in the backup image.
8. (Original) A method as recited in claim 3, wherein said generating a list of files to be included in the backup image based on the backup path indicated in the request includes, determining whether the backup path indicates a directory and, if so, adding any files within the directory to the list of files to be included in the backup image.
9. (Original) A method as recited in claim 3, wherein said generating a list of files to be included in the backup image based on the backup path indicated in the request includes, generating a bitmap with a number of bits equal to the total number of inodes available on the file system that hosts the backup path, each bit representing an inode associated with a file on the file system and indicating whether the associated file is included in the backup image.
10. (Original) A method as recited in claim 3, further comprising:
generating file attribute information for each file included in the list of files to be included in the backup image; and
writing the file attribute information to the beginning of the backup image on the secondary storage device.
11. (Original) A method as recited in claim 10, wherein the file attribute information includes Access Control List information.

12. (Original) A method as recited in claim 3, further comprising:
for each file in the list of files to be included in the backup image,
communicating file history information to a data management application.
13. (Original) A method as recited in claim 1, wherein the offset map comprises an array having a number of elements equal to the number of inodes on the file system that hosts the backup path, each element of the array representing an inode on the file system and indicating the exact location in the backup image of a file associated with the number of the inode.
14. (Original) A method as recited in claim 1, further comprising:
generating directory structure information based on the backup path indicated in the request; and
writing the directory structure information to the backup image;
15. (Original) A method as recited in claim 1, further comprising:
for each file in the list of files to be included in the backup image, verifying that the location in the backup image to which the file is actually written is the same location as the location of the file indicated in the offset map.
16. (Original) A method as recited in claim 1, further comprising:
communicating to a data management application whether or not the location in the backup image to which each file is actually written is the same location as the location of each file indicated in the offset map.
17. (Original) A processing system to generate a backup image, the processing system comprising:
a processor;

a network communication interface to provide the processing system with data communication with a plurality of clients, including a data management application, over a network;

a storage interface to provide the processing system with data communication with a set of mass storage devices; and

a memory containing code which, when executed by the processor, causes the processing system to execute a process of generating a backup image on behalf of the data management application, the process comprising:

generating an offset map to indicate the exact location of each file in a backup image, before any file data has been written to the backup image; and

writing the offset map to the backup image before writing the file data to the backup image.

18. (Original) A processing system as recited in claim 17, wherein the process further comprises:

subsequent to writing the offset map to the backup image, writing the files to the backup image.

19. (Original) A processing system as recited in claim 18, wherein the process further comprises:

prior to generating the offset map, receiving a request to generate the backup image, the request indicating a backup path to be included in the backup image;

generating a list of files to be included in the backup image based on the backup path indicated in the request; and

writing the list of files to be included in the backup image to the backup image.

20. (Original) A processing system as recited in claim 19, wherein said generating an offset map to indicate the exact location of each file in a backup image includes calculating the space required in the backup image for each file included in the list of files to be included in the backup image.

21. (Original) A processing system as recited in claim 20, wherein said calculating the space required in the backup image for each file included in the list of files to be included in the backup image includes compensating for any holes that may exist in the file, as the file is stored on a file system.

22. (Original) A processing system as recited in claim 20, wherein said calculating the space required in the backup image for each file included in the list of files to be included in the backup image includes compensating for any headers to be written to the backup image for the file.

23. (Original) A processing system as recited in claim 19, wherein the process further comprises:

for each file in the list of files to be included in the backup image, determining whether the file has any associated streams and, if so, adding the associated streams to the list of files to be included in the backup image.

24. (Original) A processing system as recited in claim 19, wherein said generating a list of files to be included in the backup image based on the backup path indicated in the request includes, determining whether the backup path indicates a directory and, if so, adding any files within the directory to the list of files to be included in the backup image.

25. (Original) A processing system as recited in claim 19, wherein said generating a list of files to be included in the backup image based on the backup path indicated in the request includes, generating a bitmap with a number of bits equal to the total number of inodes available on the file system that hosts the backup path, each bit representing an inode associated with a file on the file system and indicating whether the associated file is included in the backup image.

26. (Original) A processing system as recited in claim 19, wherein the process further comprises:

generating file attribute information for each file included in the list of files to be included in the backup image; and

writing the file attribute information to the beginning of the backup image on the secondary storage device.

27. (Original) A processing system as recited in claim 26, wherein the file attribute information includes Access Control List information.

28. (Original) A processing system as recited in claim 19, wherein the process further comprises:

for each file in the list of files to be included in the backup image, communicating file history information to a data management application.

29. (Original) A processing system as recited in claim 17, wherein the offset map comprises an array having a number of elements equal to the number of inodes on the file system that hosts the backup path, each element of the array representing an inode on the file system and indicating the exact location in the backup image of a file associated with the number of the inode.

30. (Original) A processing system as recited in claim 17, wherein the process further comprises:

generating directory structure information based on the backup path indicated in the request; and

writing the directory structure information to the backup image;

31. (Original) A processing system as recited in claim 17, further comprising:

for each file in the list of files to be included in the backup image, verifying that the location in the backup image to which the file is actually written is the same location as the location of the file indicated in the offset map.

32. (Original) A processing system as recited in claim 17, wherein the process further comprises:

communicating to a data management application whether or not the location in the backup image to which each file is actually written is the same location as the location of each file indicated in the offset map.

33.-52. (Canceled)